



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

RECEIVED  
WMD RECORD CENTER

JUL 12 1996

JUL 11 1996

REPLY TO THE ATTENTION OF:

DRE-8J

General Motors Corporation  
300 N. Chevrolet Ave  
Flint, Michigan 48504

Re: New Federal Regulations on the  
Import/Export of Hazardous Waste  
General Motors Corporation  
MID 005 356 654

Dear Sir/Madame:

I have enclosed a photo copy of the April 12, 1996, FEDERAL REGISTER, "Imports and Exports of Hazardous Waste: Implementation of OECD Council Decision, Final Rule." By July 11, 1996, persons involved in importing/exporting hazardous waste must be in compliance with the regulations published in the enclosed requirements which address the control of transfrontier movements of waste destined for recovery operations. These new requirements, promulgated under the authority of the Resource Conservation and Recovery Act as amended (RCRA), apply in all States, irrespective of States' RCRA authorization status.

If you have any questions regarding this Final Rule please contact the RCRA Hot Line 1-800-424-9346 or TDD 1-800-553-7272 (for the hearing impaired). In addition, selected supporting materials are available on the Internet. The April 12, 1996, FEDERAL REGISTER has instructions to access the information electronically.

Sincerely yours,

Uylaine E. McMahan  
EP

Uylaine E. McMahan  
Compliance Assistance Program Manager  
Enforcement and Compliance Assurance Branch  
Waste, Pesticides and Toxics Division

Enclosure

DEC 21 1987

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Dr. Joseph P. Chu  
General Motors Corporation  
General Motors Technical Center  
30400 Mound Rd.  
Warren, Michigan 48090-9015

Re: Letter of Warning  
Export of Hazardous Waste

Dear Dr. Chu:

The United States Environmental Protection Agency (U.S. EPA) recently received notifications from two General Motors Corporation (GMC) facilities regarding the inadvertent inclusion of hazardous waste in shipments of scrap equipment to Zalev Brothers, Limited, Windsor, Ontario, Canada. As a result, hazardous wastes were exported without prior notification to U.S. EPA and without the consent of the receiving country in violation of Section 3017 of the Resource Conservation and Recovery Act, as amended, and regulations found at 40 CFR Subpart E. The two facilities involved were the Flint Manufacturing Plant, Flint, Michigan and the GMC-CPC-Pontiac Plant, Pontiac, Michigan. The incidents occurred on July 20, 1987, and October 23, 1987, respectively. The wastes involved were ignitron rods, containing mercury, from welding equipment which was being decommissioned. Copies of the facilities' notification to U.S. EPA and a letter of warning to the Flint Manufacturing Plant issued by U.S. EPA have been enclosed for your information.

Although no enforcement action will be taken at this time, please be advised that future violations of these regulations may subject a violating GMC facility to penalties of up to \$25,000 per violation.

As a result of these incidents, scrap equipment decommissioning procedures at the two facilities have been revised so as to prevent a reoccurrence of these violations. However, in order to preclude violation of these regulations at other facilities, U.S. EPA requests that GMC have all facilities, which ship scrap equipment off-site, review their decommissioning procedures in order to ensure that hazardous wastes are segregated from scrap equipment and disposed of in accordance with all applicable regulations. We request that documentation of this effort be submitted to the United States Environmental Protection Agency, RCRA Enforcement Section (5HE-12), 230 S. Dearborn Street, Chicago, Illinois 60604, no later than forty-five (45) days from receipt of this letter.

If you should have any questions regarding this matter, you may contact Glenn Sternard of my staff. His telephone number is (312) 886-4582.

Sincerely,

**ORIGINAL SIGNED BY**

**WILLIAM E. MUNO**

William E. Muno, Chief  
RCRA Enforcement Section

Enclosures

cc: Phillip Gerwert  
General Motors Corporation

bcc: Wendy Greider  
Office of International Activities, HQ, A-106  
Mary Gade, 5HR-11

**P 246 527 153**  
**RECEIPT FOR CERTIFIED MAIL**

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL  
(See Reverse)

SENT TO		Joseph P. Chu	
STREET AND NO.		30400 Mound Rd.	
P.O., STATE AND ZIP CODE		Warren, MI 48090	
POSTAGE		\$90.15	
CERTIFIED FEE		75	
SPECIAL DELIVERY			
RESTRICTED DELIVERY			
SHOW TO WHOM AND DATE DELIVERED			
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY			
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		70	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY			
TOTAL POSTAGE AND FEES		227.18	
POSTMARK OR DATE		APR 22 1987	

PS Form 3800, Apr. 1976

U.S. MAIL

TYPE	AUTHOR	DATE	DATE	SECT.	SECT.	UNIT	DATE
388				22	21	12/10/87	12/21/87



**Flint Manufacturing**

November 3, 1987

Mr. William E. Muno, Chief  
RCRA Enforcement Section  
U.S. Environmental Protection Agency  
Region V  
230 South Dearborn Street  
Chicago, Illinois 60604



Dear Mr. Muno:

In response to your letter of September 29, 1987 regarding the inadvertent export of hazardous waste to Canada, the following steps have been taken to insure that incidents like the one described in your letter do not happen in the future at Flint Manufacturing. Plant management personnel have been reminded of their required conformance to existing decommissioning procedures for scrapped equipment. I have made recommendations to address environmental concerns in greater detail in those procedures. The following is an excerpt from a widely-circulated memorandum to all superintendents and all engineering, maintenance and materials management personnel:

The following is a list of potential environmental concerns during equipment decommissioning (including long-term storage or scrapping), plant rearrangements, and equipment transfers or sales.

- 1.) All equipment must be inspected for residuals (sludges, process chemicals) before the equipment is moved from the plant. These residuals need to be properly managed before the equipment is removed from the plant. Often hazardous materials are classified as hazardous wastes when discarded or recycled. If advised, environmental personnel can examine Material Safety Data Sheets (MSDSs) for the process chemicals involved and/or collect samples for analysis to determine if these residuals must be classified and managed as hazardous wastes. Residuals so classified must be disposed of according to RCRA and state regulations.
- 2.) Electrical equipment must be inspected for the presence of mercury containing devices (ignitron tubes, switches, etc.) and PCB articles (small capacitors, light ballasts, etc.). Mercury containing devices must be removed and managed in accordance with applicable regulations. PCB articles are regulated as a hazardous substance and must be removed and managed according to TSCA.
- 3.) Equipment with insulation materials (pipe insulation, etc.) must be inspected for the presence of asbestos. Any asbestos insulation must be removed and disposed of according

to the CAA and applicable state regulations before the equipment is scrapped.

4.) Equipment (presses, grinders, washers, etc.) must be inspected for the presence of oils (hydraulic, soluble oil compounds) and other polluting substances (process chemicals) before being moved. Equipment that is being moved (for example, a press that is laid down on its side to facilitate movement) has the potential to discharge oil and other polluting substances to the environment (air, soil, storm sewer system, surface water) in violation of the CAA, Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund), and/or CWA as well as state regulations. Therefore, all liquids must be removed from equipment and disposed of properly before the equipment is moved from the plant.

5.) Scrap materials with substantial economic value that are being shipped from the 25 Yard or directly from production plants for reclamation may be regulated by RCRA and must be managed accordingly. Other waste materials are not to be mixed with scrap materials destined to be recycled.

6.) Other materials with no economic value that are being discarded may also be regulated by RCRA and must be managed accordingly.

7.) Radioactive materials are strictly regulated by Nuclear Regulatory Commission (NRC) rules. Static eliminator devices are so regulated and must be managed according to applicable NRC and DOT regulations. These devices are to be returned to the manufacturer for proper disposal when taken out of service.

8.) All transport of equipment or scrap materials off-site should be done in accordance with applicable Department of Transportation (DOT) requirements under the HMTA.

While the above list is not exhaustive, it points out major areas of concern in light of the recent incidents. It is the responsibility of the plant that is decommissioning equipment, shipping scrap material or generating waste materials to manage and ship these materials properly. Various departments are available to assist with these activities. These departments include the Environmental Section, Manufacturing Quality Support for questions regarding identification and management of hazardous wastes, Materials Management for questions regarding proper shipping procedures, and Plant Engineering for questions regarding equipment decommissioning, and asbestos and PCB management.

In addition, a number of materials management personnel have received additional formal training in the recognition and management of hazardous waste. Rail cars of scrapped equipment are inspected for the presence of regulated materials before shipment to off-site scrap yards.

If you have any questions regarding this matter, please do not hesitate to contact me at (313) 236-3479.

Sincerely,

GENERAL MOTORS CORPORATION

A handwritten signature in cursive script, reading "John R. Craig".

John R. Craig  
Environmental Specialist / Chemist  
Manufacturing Quality Support

EP110387

cc: N. Ardahl  
J. Jaffurs  
File

SEP 29 1987

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Mr. John R. Craig  
Flint Manufacturing Plant  
Fisher Guide Division  
General Motors Corporation  
300 North Chevrolet Avenue  
Flint, Michigan 48555

P593 668389

Re: Letter of Warning  
Export of Hazardous Waste  
Flint Manufacturing Plant  
EPA ID No.: MID 005 356 654

Dear Mr. Craig:

On September 3, 1987, you sent notification to Ms. Wendy Greider, of this Agency, of the export of hazardous waste which had been shipped by rail from the Flint Manufacturing Plant on July 20 and July 30, 1987. The shipments occurred when ignitron rods containing mercury were included in two rail cars containing scrap iron which was destined for Zalev Brothers, Limited, located in Windsor, Ontario, Canada.

The export of hazardous waste without prior notification to the United States Environmental Protection Agency and without the consent of the receiving country is in violation of Section 3017 of the Resource Conservation and Recovery Act, as amended, and regulations found at 40 CFR Subpart E. Although no enforcement action will be taken at this time, please be advised that any future violation of these regulations may subject you to penalties of up to \$25,000 per violation.

In order to insure that these violations do not recur, we are requesting that you submit a description of changes in the decommissioning procedures for scrap equipment which will be instituted at the Flint Manufacturing Plant. Such documentation should be sent to the United States Environmental



SEP 29 1987

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Flint Manufacturing Plant  
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Protection Agency, RCRA Enforcement Section 5HE-12, 230 South Dearborn Street, Chicago, Illinois 60604, no later than thirty (30) days from receipt of this letter.

If you should have any questions regarding this matter, you may contact Glenn Stenard of my staff. His telephone number is (312) 886-4582.

Sincerely yours,

**ORIGINAL SIGNED BY**

**WILLIAM E. MUNO**

William E. Muno, Chief  
RCRA Enforcement Section

bcc: Wendy Greider  
Office of International Activities, HQ, A-106

Mary Gade, 5HR-11

WEM:GJS:gjs:9/23/87:discV:6-4582

DATE	TYPE	OTHER STAFF	UNIT CHIEF	SECT. SEC'Y	SECT. CHIEF	UNIT CHIEF	UNIT
9/29/87	GJS		off for RK9/29/87	AP 9/29/87	WEM 9/29/87		

P 593 668 389

# RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

★ U.S.G.P.O. 1983-403-517

PS Form 3800, Feb. 1982

Sent to	John R. Craig
Street and No.	300 North Chevrolet Ave.
P.O., State and ZIP Code	Flint, Michigan 48555
Postage	\$ 22
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	06
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 167
Postmark or Date	



Glenn Stermard, 930 S. Dearborn, Chicago, IL 60604 C5HE

SENDER: Complete items 1, 2, 3 and 4.  
Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:

John R. Craig  
300 North Chevrolet Ave.  
Flint, Michigan 48555

4. Type of Service:

- ☐ Registered ☐ Insured ☒ Certified ☐ Express Mail

Article Number  
P 593 668 389

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X R. Stermard

6. Signature - Agent

X

7. Date of Delivery

OCT 6 1987

8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

**UNITED STATES POSTAL SERVICE  
OFFICIAL BUSINESS**



PENALTY FOR PRIVATE  
USE, \$300

**SENDER INSTRUCTIONS**

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

**RETURN  
TO**



(5HE-12)

Glenn Stenard. U.S. EPA.

(Name of Sender)

330 S. Dearborn St.

(No. and Street, Apt., Suite, P.O. Box or R.D. No.)

Chicago, IL 60604 (5HE-12)

(City, State, and ZIP Code)



*Laura L. / Ch S. - I'd like Chen's followup on this along  
the lines that Bill suggests.*

*Thanks,  
Bill*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

DATE: 21 September 1987

SUBJECT: Illegal Export of Hazardous Waste

FROM: Mary Gade, Acting Chief  
Emergency & Remedial Response Branch

TO: William Miner, Chief  
Hazardous Waste Enforcement Branch

*MJW*  
*WEM*  
*9/22/87*

As I mentioned to you, Wendy Grieder from the Office of International Activities called me last week to advise me that the attached information was being sent to the Region for possible enforcement action. Ms. Grieder felt that the company had acted responsibly upon discovery of the accidental export but concurred that some sort of warning letter might be appropriate. She asked that we advise her of whatever action we decide to take. Please let me know as well how we follow-up on this.

*Perhaps a warning letter that asks how GAO will prevent future such incidents.*



Fisher GL Division 300 North Chevrolet Ave  
General Motors Corporation Flint, Michigan 48555

Flint Manufacturing



September 3, 1987

RECEIVED  
SEP 16 1987  
EMERGENCY  
REMEDIAL  
RESPONSE BRANCH

Ms. Wendy Greider  
Office of International Activities  
U.S. Environmental Protection Agency  
401 M Street S.W.  
Washington, D.C. 20460

Dear Ms. Greider:

On July 20, 1987, the Fisher Guide Division, Flint Manufacturing Plant in Flint, Michigan inadvertently included hazardous waste, in the form of ignitron tubes which contain mercury, in a rail car of scrap metal which was sold to Chemical Iron Company, Detroit, Michigan. The scrap metal was subsequently transferred by Chemical Iron to a scrap dealer, Zalev Brothers Limited, in Windsor, Ontario. These tubes were a component of obsolete welding equipment. Before discovery of this incident on August 5, 1987 by Zalev Brothers Limited personnel, a second rail car was loaded on July 30, 1987 with additional scrap welding equipment destined for Zalev Brothers Limited. When it was determined that the potential existed for additional ignitron tubes to be present, an attempt was made to recall this second rail car before it crossed the U.S.-Canadian border. However, this rail car arrived at the scrap yard on the morning of August 6, 1987. The National Response Center, Michigan Department of Natural Resources, Ontario Ministry of the Environment and CANUTEC were immediately notified by General Motors upon discovery of this incident.

These hazardous tubes were not intended for export; hence, General Motors did not provide prior notification to the Environmental Protection Agency as required by 40 CFR Part 262, Subpart E. This letter is to provide the Environmental Protection Agency with after the fact notification of this incident. Enclosed is a copy of the report General Motors filed with Transport Canada.

If you have any questions regarding this matter, please do not hesitate to contact me at (313) 236-3479.

Sincerely,

GENERAL MOTORS CORPORATION

John R. Craig  
Environmental Specialist / Chemist  
Manufacturing Quality Support

EP090387.2

cc: J. Jaffurs  
File

## DANGEROUS OCCURRENCE REPORT

## RAPPORT SUR UN CAS DE DANGER

AS REQUIRED UNDER THE TRANSPORTATION OF DANGEROUS GOODS REGULATIONS  
(SECTION 9.14)PRESCRIT EN VERTU DU RÈGLEMENT SUR LE TRANSPORT DES MARCHANDISES DANGEREUSES  
(ARTICLE 9.14)1. TYPE OF DANGEROUS OCCURRENCE — GENRE DE CAS DE DANGER  
(CHECK ALL APPLICABLE BOXES) (COCHER TOUTES LES CASES APPLICABLES)☒ SPILL  
ÉPANCHEMENT☐ LEAK  
FUITE☒ CONTAMINATION:☐ EXPLOSION☐ FIRE  
INCENDIEA ☐ HUMAN  
DES PERSONNESB ☒ PROPERTY  
DES BIENSC ☐ ENVIRONMENT  
DE L'ENVIRONNEMENT

## 2. DATE OF DANGEROUS OCCURRENCE — DATE DU CAS DE DANGER

Discovered

8 | 7 | 0 | 8 | 0 | 5  
Y - A M D - J3. TIME OF DANGEROUS OCCURRENCE (24 HR. SYSTEM)  
HEURE DU CAS DE DANGER (SUR 24 HEURES)

Approximately

10:00

4. LOCATION OF DANGEROUS OCCURRENCE (BE SPECIFIC)  
LIEU DU CAS DE DANGER (PRÉCISEZ)

Windsor, Ontario

## 5.

☐ RESIDENTIAL AREA  
ZONE RESIDENTIELLE☒ COMMERCIAL AND RESIDENTIAL AREA  
ZONE COMMERCIALE ET RESIDENTIELLE☐ URBAN CORE AREA  
CENTRE-VILLE☐ INDUSTRIAL AREA  
ZONE INDUSTRIELLE☐ RURAL AREA  
ZONE RURALE

## 6. DANGEROUS OCCURRENCE HAPPENED: — LE CAS DE DANGER S'EST PRODUIT DURANT:

☐ DURING TRANSPORT  
LE TRANSPORT☒ DURING HANDLING (SPECIFY)  
LA MANUTENTION (PRÉCISEZ)Discovered during  
unloading☐ DURING TEMPORARY STORAGE  
L'ENTREPOSAGE TEMPORAIRE☐ OTHER (SPECIFY)  
AUTRE (PRÉCISEZ)

## 7. COMPLETE A OR B — REMPLIR A OU B

(A) DANGEROUS OCCURRENCE DURING TRANSPORT  
(A) CAS DE DANGER DURANT LE TRANSPORT

## (1) MODE OF TRANSPORT — MODE DE TRANSPORT

☐ ROAD  
ROUTIER☐ RAIL  
FERROVIAIRE☐ AIR  
AÉRIEN☐ MARINE  
MARITIME

## (2) TYPE OF VEHICLE — GENRE DE VÉHICULE

## (3) CARRIER (NAME AND ADDRESS) — TRANSPORTEUR (NOM ET ADRESSE)

POSTAL CODE — CODE POSTAL

OR  
OU(B) DANGEROUS OCCURRENCE DURING HANDLING OR TEMPORARY  
STORAGE(B) CAS DE DANGER DURANT LA MANUTENTION OU L'ENTREPOSAGE  
TEMPORAIRE

## (1) FACILITY — INSTALLATION

TERMINAL: ☐ AIR  
AÉRIEN ☐ RAIL  
FERROVIAIRE ☐ ROAD  
ROUTIERPORT: ☐ ON SHORE  
AU QUAI ☐ ON SHIP  
À BORD D'UN NAVIRE☐ WAREHOUSE  
ENTREPÔT☐ BULK STORAGE PLANT  
INSTALLATION D'ENTREPOSAGE EN VRAC☒ OTHER (SPECIFY)  
AUTRE (PRÉCISEZ)

scrap metal yard

## (2) FACILITY (NAME AND ADDRESS) — INSTALLATION (NOM ET ADRESSE)

Zalev Brothers Limited

100 Grand Marais, East

Windsor, Ontario

POSTAL CODE — CODE POSTAL  
N9A 6N58. CONSIGNOR —  
EXPÉDITEUR

NAME — NOM

Chemical Iron Company

ADDRESS — ADRESSE

One Kennedy Square, Suite 2216, Detroit, Michigan

POSTAL CODE — CODE POSTAL  
48226

## 9. IN OF CONSIGNMENT — POINT D'ORIGINE DE L'ENVOI

Fisher Guide Division, Flint Manufacturing  
General Motors Corporation, 300 N. Chevrolet

## 10. DESTINATION OF CONSIGNMENT — POINT DE DESTINATION DE L'ENVOI

Zalev Brothers Limited  
Windsor, Ontario



## 11. DANGEROUS GOODS INVOLVED IN THE OCCURRENCE WERE:

LES MARCHANDISES DANGEREUSES EN CAUSE DANS LE CAS DE DANGER ÉTAIENT:

☐ IN BULK  
EN VRAC☐ PACKAGED  
DANS DES COLIS☒ IN CONTAINERS  
DANS DES CONTENEURS

P.I.N. NIP	CLASSI- FICATION	SHIPPING NAME — APPELLATION RÉGLEMENTAIRE	TYPE OF PACKAGE GENRE DE COLIS	TOTAL MASS OR VOLUME OF SHIPMENT MASSE OU VOLUME TOTAL DE L'ENVOI	MASS OR VOLUME OF ESTIMATED LOSS MASSE OU VOLUME DES PERTES ESTIMATIVES
2809	8	Mercury	Ignitron tubes	29 Kg Max.	9 - 13 Kg

## 12. DESCRIBE THE EVENTS LEADING TO, DURING AND RESULTING FROM THE DANGEROUS OCCURRENCE

DECRIVEZ LES CIRCONSTANCES AYANT CONDUIT AU CAS DE DANGER ET CELLES QUI PRÉVALAIENT DURANT ET APRÈS LE CAS DE DANGER

See attachment

## 13. NUMBER OF DEATHS

NOMBRE DE DÉCÈS None

## 14. NUMBER OF INJURED PERSONS REQUIRING HOSPITALIZATION

NOMBRE DE BLESSÉS QUI ONT DÛ ÊTRE HOSPITALISÉS None

15. EVACUATION OF SURROUNDING AREA  
EVACUATION DES ENVIRONS☐ YES  
OUI☒ NO  
NON16. EMERGENCY RESPONSE PERSONNEL AT SITE OF DANGEROUS OCCURRENCE  
PERSONNEL D'INTERVENTION D'URGENCE SUR LES LIEUX☐ POLICE☐ FIRE DEPARTMENT  
SERVICE D'INCENDIE☒ OTHER  
AUTRE

Ministry of Environment

## 17. COMMENTS AND ADDITIONAL INFORMATION — COMMENTAIRES ET RENSEIGNEMENTS SUPPLÉMENTAIRES

## 18. PERSON COMPLETING THIS FORM — FORMULE REMPLIE PAR:

NAME — NOM

John R. Craig

TITLE — TITRE

Environmental Specialist / Chemist

ADDRESS — ADRESSE

General Motors Corporation  
Fisher Guide Flint Manufacturing, 300 N. Chevrolet Ave.,  
Flint, Michigan 48555

TELEPHONE — TÉLÉPHONE

AREA CODE (313) 236-3479  
CODE RÉG.I CERTIFY THAT THIS INFORMATION IS ACCU-  
RATE TO THE BEST OF MY KNOWLEDGE.J'ATTESTE QUE LES RENSEIGNEMENTS CI-  
DESSUS SONT EXACTS AU MEILLEUR DE MA  
CONNAISSANCE.

SIGNATURE

DATE

Transportation of Dangerous Goods  
**DANGEROUS OCCURRENCE REPORT (Continued)**

12 (Continued). On July 20, 1987, a railroad gondola car was shipped with scrap iron and steel from an equipment storage and salvage yard at Fisher Guide Flint Manufacturing, General Motors Corporation. The scrap iron and steel was purchased from Flint Manufacturing by Chemical Iron Company, Detroit, Michigan and consigned to Zalev Brothers Limited, Windsor Ontario. Included in that shipment was scrap welding equipment which contained a number of ignitron tubes of various sizes. Depending on size, each ignitron tube contains between 177 and 1,020 grams of metallic mercury inside a glass envelope, which is shrouded by a outer metal housing. Although the metal housing is sufficiently substantial to protect the glass envelope from breakage during normal use, it is incapable of protecting it during scrap handling operations. The outer metal housing does not permit identification of the tube as containing mercury by visual inspection. In addition, these tubes are not labelled as containing mercury by the manufacturer. Flint Manufacturing salvage yard personnel, unfamiliar with the nature of these electrical components, inadvertently loaded scrap welding equipment containing these tubes. Broken and intact ignitron tubes were discovered at Zalev Brothers Limited scrap yard during unloading by their personnel and Flint Manufacturing received notification on August 5, 1987. It was determined that a second railroad gondola car, containing additional welding equipment, was enroute to Zalev Brothers Limited. An unsuccessful attempt was made to recall this rail car before it crossed the U.S.-Canadian border. The second rail car left Flint Manufacturing on July 30 1987, six days before discovery of the original occurrence, and arrived at Zalev Brothers Limited on the morning of August 6, 1987. This rail car was immediately inspected upon arrival and additional ignitron tubes were found.

The proper authorities were notified of this occurrence and clean-up commenced on August 5. Clayton Environmental Limited, Windsor, Ontario, conducted the clean-up for Zalev Brothers Limited under the direction of the Ontario Ministry of Environment. Twenty-seven ignitron tubes were recovered and properly packed in sealed drums for disposal. Of the twenty-seven tubes recovered, twenty-two were found to be broken. The contaminated soil, cinders and other debris from the bottom of the rail cars were transferred to sealed drums for disposal in a secure landfill. The bottom of the rail cars were further decontaminated by using a mercury vacuum cleaner and elemental sulfur applications. The decontamination was verified by using a thin-film type mercury analyzer. Unloading areas of the Zalev Brothers Limited scrap yard were similarly decontaminated and monitored.

Decommissioning procedures for scrap equipment were reviewed and revised to ensure proper management of scrap ignitron tubes at Flint Manufacturing. Plant management, engineers, maintenance personnel, and salvage yard workers were advised of these procedures. The equipment in the storage and salvage yard was inspected and all remaining tubes were removed for proper disposal in the U.S.